II-J.

Bruner Sidewalk Lights

P. M. Bruner Granitoid Co.
532 Frisco Building
SAINT LOUIS - MISSOURI

1911
CATALOGUE

Herein we present

A SHORT EXPLANATION AND SOME ILLUSTRATIONS OF

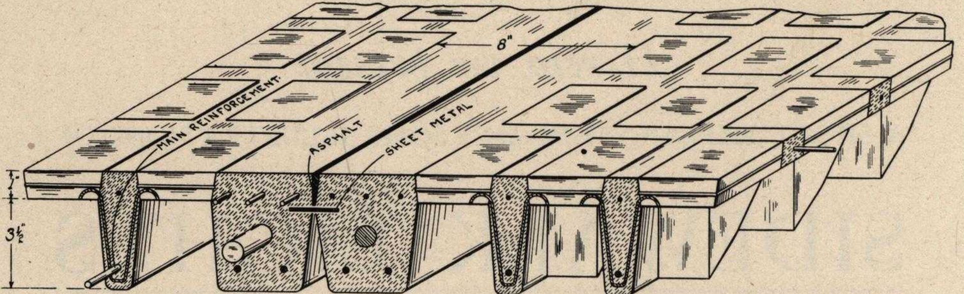
SIDEWALK LIGHTS

USED ALSO AS

FLOOR AND ROOF LIGHTS
VAULT LIGHTS
FIREPROOF PORCH FLOOR LIGHTS
AND IN
TUNNELS, SUBWAYS, ETC.

See "Sweet's Index"

A Guaranteed Sidewalk Light of Superior Construction



THE STRONG POINTS

Entirely Reinforced Concrete and Glass
No Iron or Concrete Beams
Largest Glass Area
Spans up to Sixteen Feet
No Exposed Iron Work
Permanent and Absolutely Waterproof
Guaranteed Two Years
Used Seventeen Years in St. Louis and the West

Iron slab, in Dauchy System. of Chicago.

IN GENERAL

IT is the purpose of this booklet to give the main points, with a few illustrations, of the Bruner System of Reinforced Concrete as applied to sidewalk lights, vault and floor lights, etc. We are not presenting a new system, for the construction has been in use for seventeen years, but we are offering a long-sought-for building product which has reached its present state of absolute perfection only after years of careful study as a specialty.

There are numerous methods for constructing this kind of work, but it has been left for the Bruner System to demonstrate its efficiency as a method of illuminating dark places by natural light and furnishing an architecturally attractive, **waterproof** and **durable** construction. A careful examination will show the true superiority and the wonderful possibilities of this product to lessen maintenance cost and raise revenue for the owner.

USES

Because of the unique design, the Bruner System can be used in many places to decided advantage,—the illuminating of basements, inside floor construction, as skylights and under skylights, in fireproof porch floors, veranda floors at residences where the space underneath may be utilized as a laundry, greenhouse, etc., because the construction is permanently waterproof and durable.

INSTALLATION

The construction is built on cast iron forms, which are removed after the concrete has set, leaving no exposed iron work; by this feature we eliminate the rusting and rapid deterioration of the old-fashioned cast iron lights. Any other construction having exposed iron work, whether **painted, galvanized,** or **otherwise** protected, is subject to rust, warpage and buckling, being without resistance to temperature stresses. All construction work done by this company insures a waterproof and permanent installation.

SLAB

The sectional view of the slab on page two of the booklet shows the general design, patented and exclusive features of the **standard construction.** The glass and slab are one inch in depth, the concrete ribs, extending in one direction only, from building to curb, are three and one-half inches in depth. The concrete between the rows of glass parallel with the building is in depth the same as the glass,—one inch.

BUCKLING OR SAGGING

Because of the depth of the construction and absolute position of reinforcements, the Bruner System cannot buckle or sag.

EXPANSION JOINT

The expansion joint in the Bruner System is protected by patents and has proven in many years of usage to be permanently waterproof and to successfully allow for expansion and contraction of glass and concrete without injury. The joint, as shown, connects sections which are otherwise distinctly separate, closing when the construction expands, opening when the construction contracts. The operation is simple, and has proven the only satisfactory one in use. These joints **are placed fifteen to twenty feet apart,** depending upon local conditions at the building.

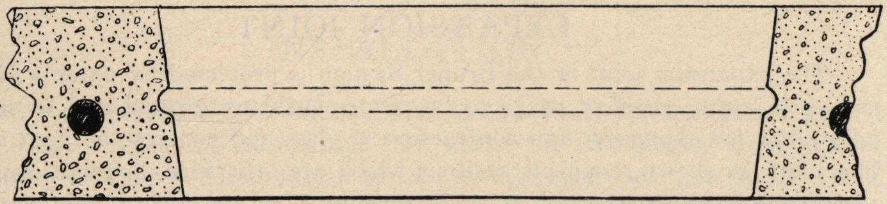
REPAIRING FEATURE

Because of the wedge shape glass the Bruner System **only** can be repaired easily and quickly by the insertion of "repair glass." This process is patented, and where such repairs are made they are absolutely and permanently waterproof and **cannot be noticed.**

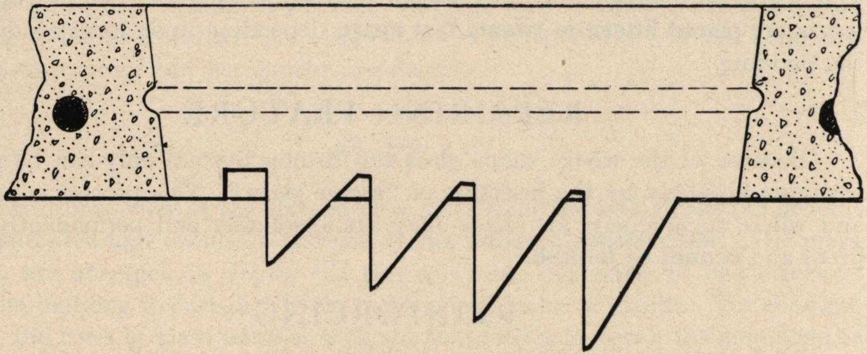
REINFORCING

Each concrete rib contains two reinforcing bars,—a shear and tension rod. These differ in size, depending entirely upon the spans. As shown in the cut on page two, these bars are held one-half inch from the bottom of the concrete ribs by wire hangers, hung between every glass, which keep the reinforcing rods from being exposed and tie the ribs to the slab. Cross tie-rods distribute the strain in case of a concentrated load, and bind the construction together.

Prism
No. 47
3¼"x3¼"
x1"
full size.

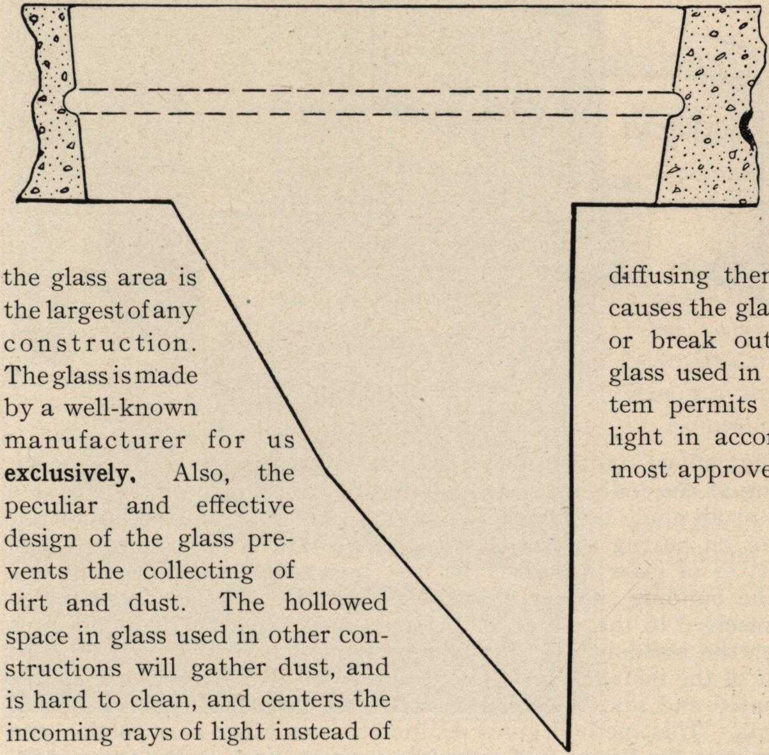


Prism
No. 52
full size.



GLASS

This is the most important item in sidewalk light construction—and the most expensive. Notice the reduced size of glass used in some constructions. This lowers the cost of the material to the producer, but prevents the installation from serving its purpose, and dissatisfaction results. In the Bruner System



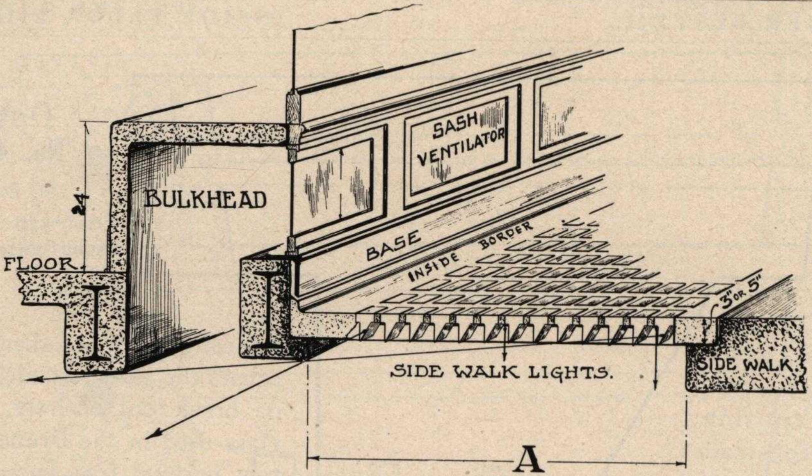
Prism

No. 46

full size.

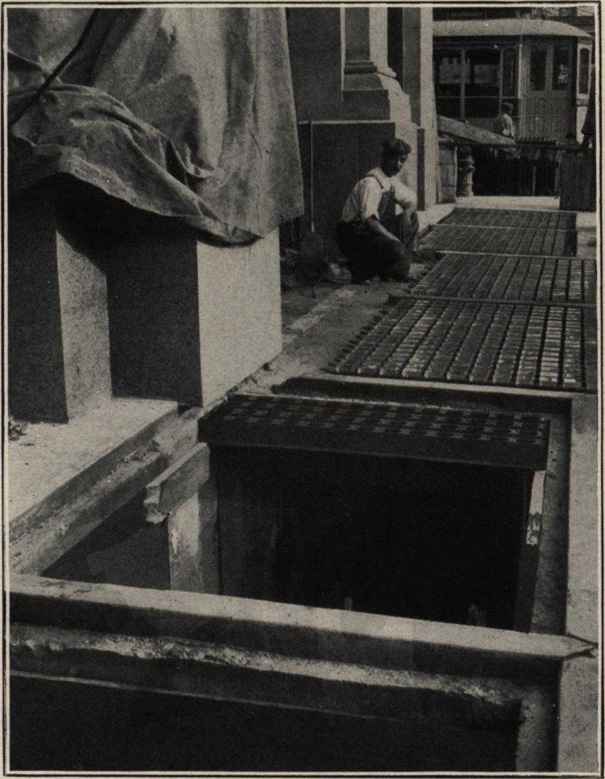
Prism part entirely below concrete slab.

the glass area is the largest of any construction. The glass is made by a well-known manufacturer for us **exclusively.** Also, the peculiar and effective design of the glass prevents the collecting of dirt and dust. The hollowed space in glass used in other constructions will gather dust, and is hard to clean, and centers the incoming rays of light instead of diffusing them, weakens and causes the glass to shale, crack or break out entirely. The glass used in the Bruner System permits free passage of light in accordance with the most approved principles.



BEARING

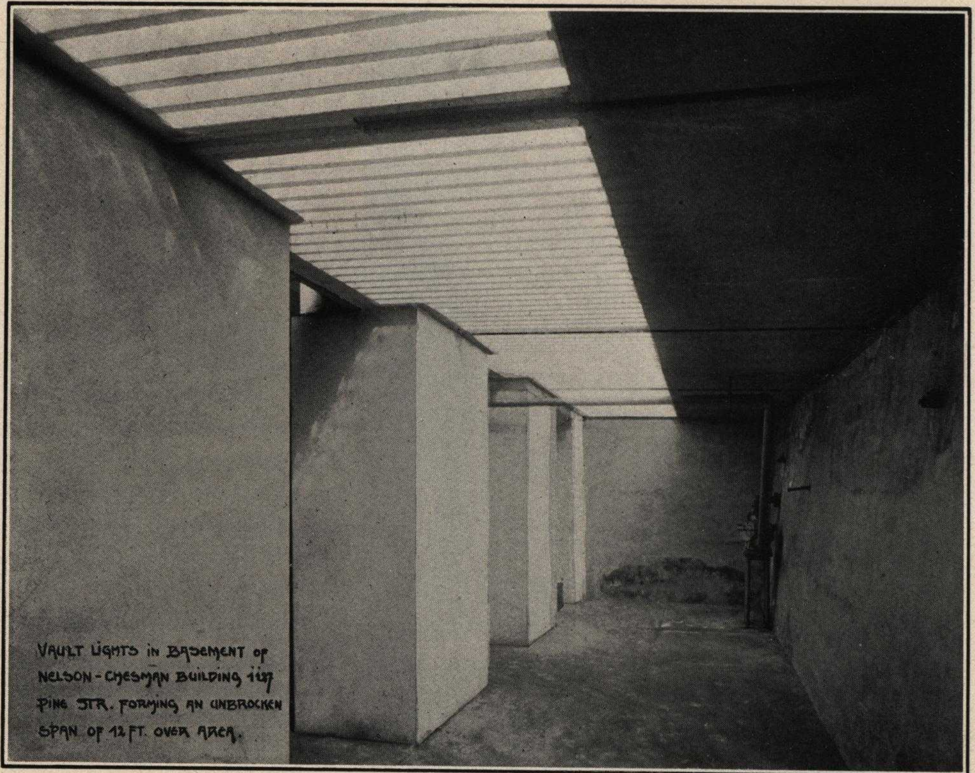
The above cut shows another point in which the Bruner System excels. No special bearing at the building is needed, the bottom flange or the top of a beam, a channel or an angle being ample support. Three or four inches on the outer area wall or on paving slab is all the bearing that is necessary. Notice that the three styles of glass will give the best results if used in conjunction. The glass near the building support should be plain No. 47. Then the multi-prism No. 52 is inserted to the center of the span, and to get the light far back in the area under the building, the double angle prism No. 46 should be used for the outer half of the installation. Notice that intermediate iron or concrete beams are eliminated and that the concrete arch may be only a continuation of the sidewalk lights. This method gives results that **no other construction can offer. It can eliminate the beams and carry the concrete arch in the same span,** as shown on page 10.



Sidewalk Lights in Separate Panels—Bruner System

We would suggest that the bearing beam at building be placed as high as possible in order that the under part of it may not interfere with the oblique rays of light, as shown by arrows on page 8.

When the sidewalk is so constructed as to leave in it open panels provided with bearings to accommodate separate and distinct panels of sidewalk lights (see cut on this page), then such panels may be made at our factory and shipped to destination, or they may be constructed by us in place. They should then have asphalt joints on the four sides.



VAULT LIGHTS IN BASEMENT OF NELSON-CHESMAN BUILDING 1127 PINE STR. FORMING AN UNBROCKEN SPAN OF 12 FT. OVER AREA.

Span Twelve Feet. Six-feet Lights. Six-feet Concrete Arch. No Iron or Concrete Beams Required. Three Expansion Joints (shown by dark lines)

ELIMINATION OF IRON OR CONCRETE BEAMS

LARGE SPANS

The Bruner System is the only one in which large spans can be made without the use of iron or concrete beams. Because of the design, the construction carries itself and spans up to sixteen-feet clear. The illustration on page 10 shows the appearance from the under side. Every beam, whether iron or concrete, takes up glass area and is detrimental to the illumination in that it eliminates glass. Every glass used transmits so much light, and the greatest amount of light is the result desired in sidewalk light construction.

LOADS

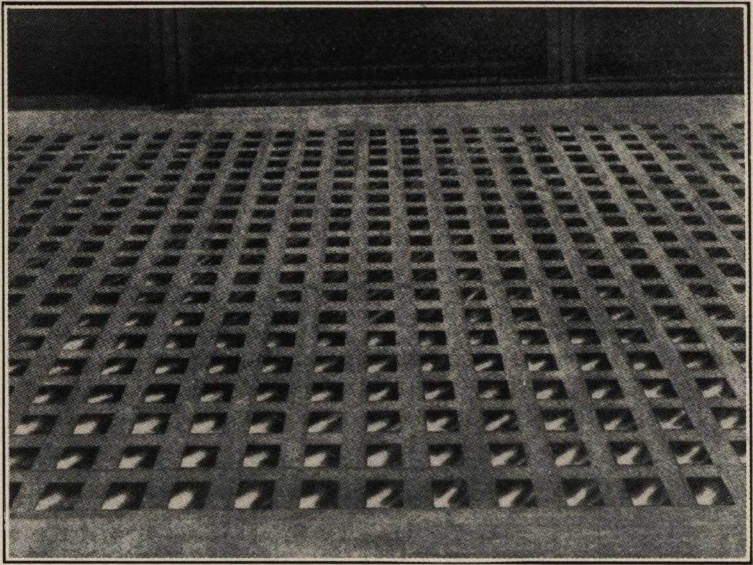
The system is constructed so that it is capable of carrying a uniformly distributed load of 200 pounds or more per square foot, with factor of safety.

CONDENSATION

One of the most objectionable features of the cast iron, part iron and concrete and concrete slab construction is entirely eliminated. Condensation and the attending annoyances are not known in the Bruner System.

DURABILITY

One of our strongest points, and surely an important one, in this construction, is the remarkable wearing and lasting qualities and the low cost of upkeep. **The first cost is the final cost of the construction.**



Prismatic Lights at Auto Garage for Ford Automobile Co., Detroit. Span, 7 feet 2 inches. Field, Hinchman & Smith, Architects

This work was guaranteed to hold a live load of 800 pounds per square foot. Part of the panel shown was loaded with 40,000 pounds of loose sand, held in place by tiers of boxes without bottoms. Not even a hair crack developed with this load, which remained on twenty-four hours with a deflection of $^3/_{16}$ inch. Deflection fully recovered after removal of load.

GUARANTEE

Every installation of the Bruner System is guaranteed to remain waterproof and in first-class condition two years, this clause being embodied in all contracts.

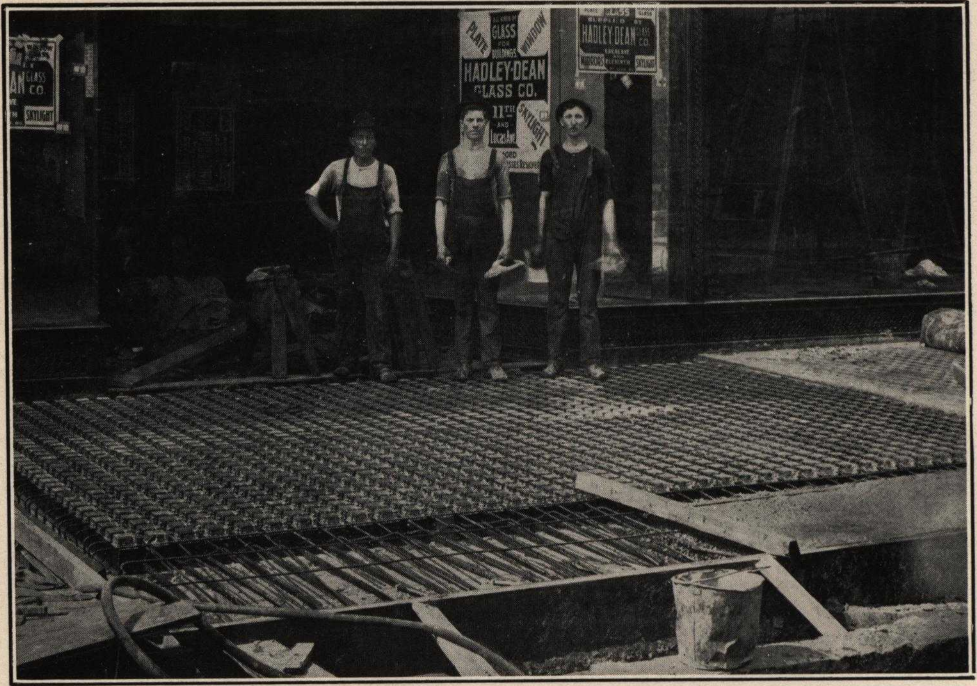
SPECIFICATION

In taking the item of sidewalk lights into consideration, we would suggest that they be **specified under a separate heading,** using the first form where the system can be definitely named or the second form where for any reason the system cannot be referred to by name.

If the words "or equal" are used, other constructions may be profitably advocated on this plea, and we again suggest that this wording be eliminated. Architects or owners can assure themselves beforehand that no advantage is allowed by the apparent lack of competition.

(1) The vault lights shall be constructed according to the Bruner System. The glass shall not be less than 1 inch thick nor indented at the under side, but shall be solid and the full depth of the slab part of the construction. (In case of reflecting lights.) The prism shall be entirely below bottom of concrete slab. In this job the glass shall be plain No. 47, multiprism No. 52, or double-angle reflecting No. 46. The paving shall be capable of carrying a uniform load of 300 pounds per square foot, without injury to the pavement. The glass shall be guaranteed for two years and the construction shall be guaranteed against leakage or any defects of workmanship and material.

(2) The vault lights shall be constructed of reinforced concrete and no re-inforcing metal shall be exposed. The construction shall consist of a flat slab with ribs below 3½ inches deep between every row of glass in one direction. The glass shall be one inch thick and never less than full thickness of slab. The glass



Showing Installation Ready for Concrete

This panel in one piece is nineteen feet long, with a span of thirteen feet clear. Before any concrete is poured, all reinforcements are properly placed. Loaded with 200 lbs. per sq. ft. it deflected in center ⅛ in.

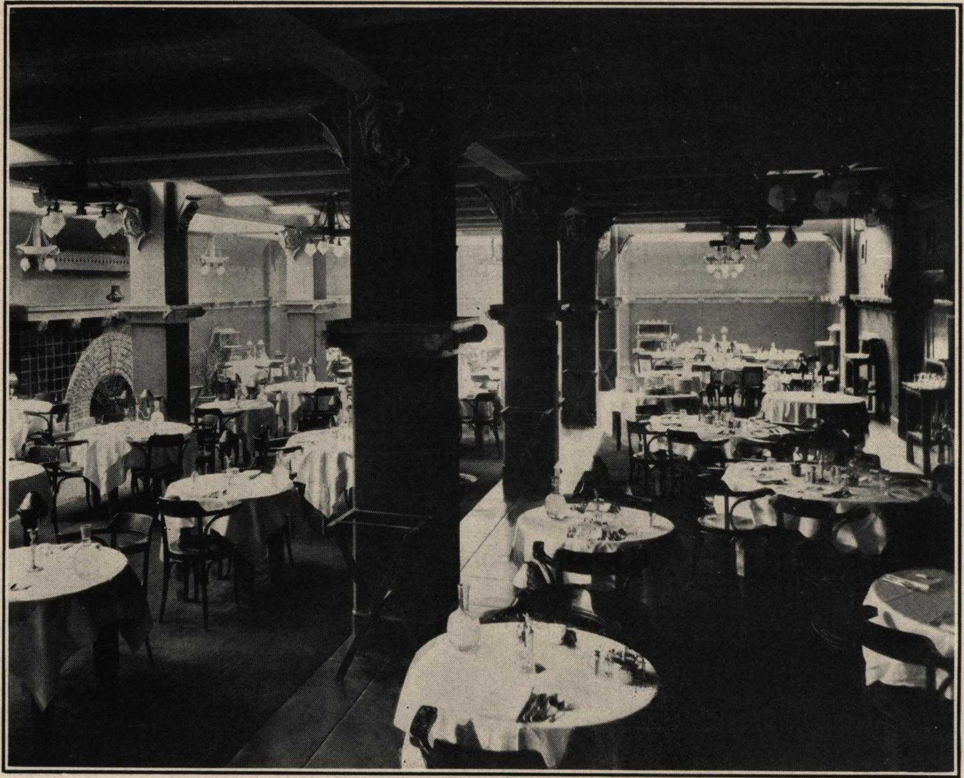
SPECIFICATION—*Continued*

shall not be indented; the reflecting part of prisms shall be entirely below bottom of slab. The ribs shall not be less than 3½ inches deep, and shall run in the direction in which the light is to be thrown. The main reinforcement shall be held in suspended wire yokes, one to each glass; the reinforcement in slab shall be round rods, placed between each row of glass in both directions. The concrete shall consist of one part of first-class Portland cement and two parts of sharp and clean sand. The paving shall be divided into suitable sections, and then shall have patent expansion joints to enable the panels to expand and contract without leakage or strain.

PRICE

Considering the effectiveness of illumination by this system it is **easily** the cheapest, not by the square foot, but by the units of light furnished **beyond the immediate** area beneath this paving. In some cases it furnishes at the same time more light also immediately underneath. Too often no thought is given to this point, and the owner is allowed to think only of the **cheapest** bid for covering an opening in his sidewalk or over an area, **without considering the amount of illumination** he may get from the work offered.

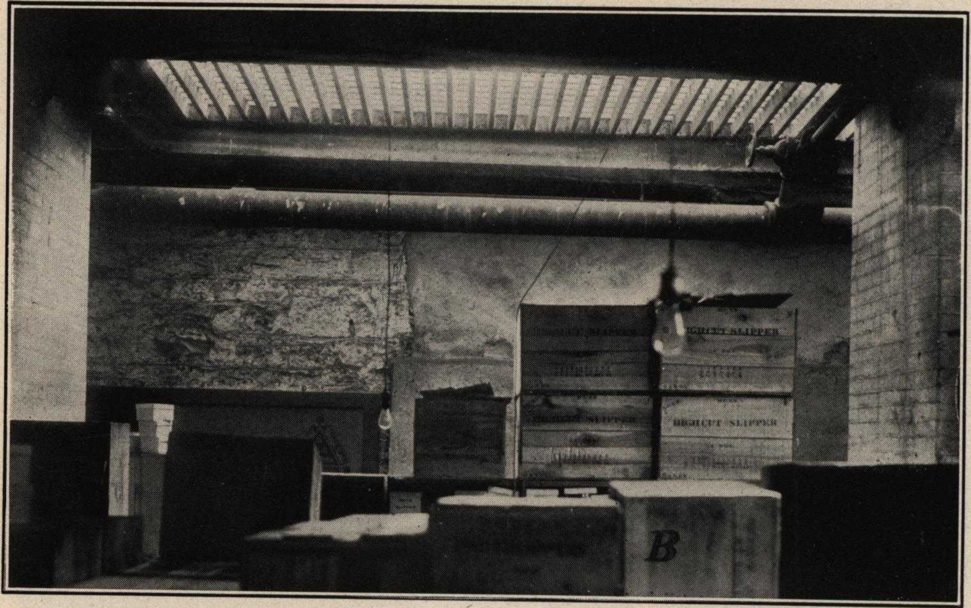
See two cuts of adjoining panels on pages 18 and 19, as seen from basement. One of them marked (B) being our system, and the other marked (A) being another system used at this same building. The top surfaces of the two panels are exactly alike in appearance, but below only the "Bruner" panel can throw light into the rear of the basement, while in the other panel marked (A) no light at all can be seen from the back part of basement at an equal distance from the sidewalk.



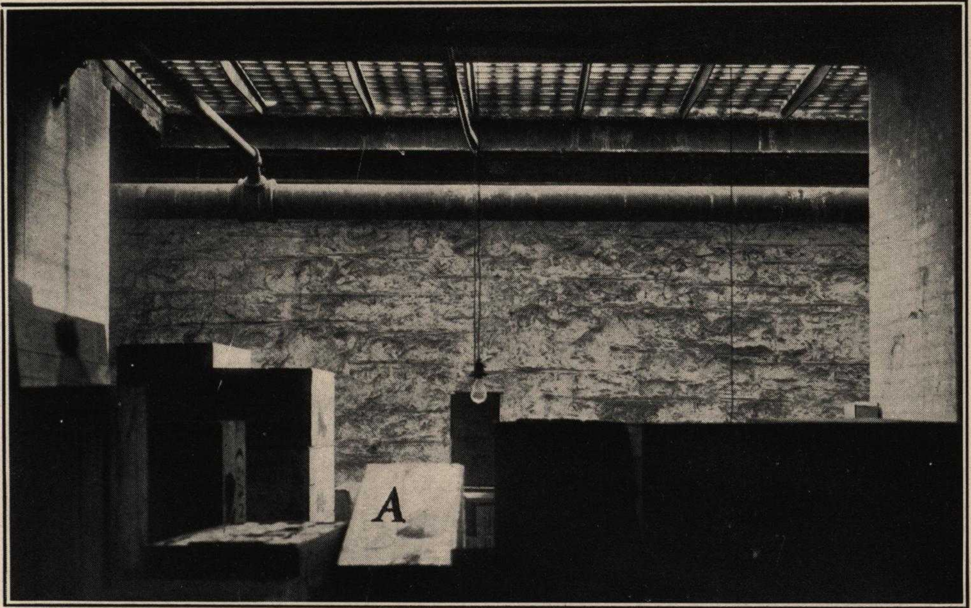
Cafe in Basement of Hayward Hotel, Los Angeles, Cal.
Five feet of Bruner Construction used, which illuminates this room as shown.

A Few Representative Installations

BUILDING	LOCATION	ARCHITECT
Fort Pitt Hotel Addition,	Pittsburg, Pa.	Janssen & Abbott.
Burnham Stoephel & Co.,	Detroit, Mich.	Donaldson & Meier.
National Bank of Commerce,	Kansas City, Mo.	Jarvis Hunt.
Business Men's Club,	Memphis, Tenn.	Shaw & Pfeil.
Peck Williamson Bldg.,	Cincinnati, Ohio	Samuel Hannaford & Sons.
Ferguson-McKinney Dry Goods Co.,	St. Louis, Mo.	Eames & Young, Wm. Levy.
Bressmer Dry Goods Co.,	Springfield, Ill.	S. J. Hanes.
Terminal Hotel,	St. Louis, Mo.	Theodore Link.
May Building,	Denver, Colo.	Wm. Levy.
Alaska Building,	Seattle, Wash.	Eames & Young.
Y. M. C. A. Building,	Kansas City, Mo.	Chas. E. Smith.
Joplin Hotel,	Joplin, Mo.	Barnett, Haynes & Barnett.
Stallman Trunk Co.,	Columbus, Ohio	Stribling & Lum.
Washington and Lee University,	Lexington, Va.	Theodore Link.
First National Bank,	Bay City, Mich.	Pratt & Koeppe.
Scarbrough Building,	Austin, Texas	Sanguinet & Staats.
Waukoonza Hotel,	Fort Dodge, Ia.	Liebe, Nourse & Rasmussen.
Free Press Building,	Ft. Wayne, Ind.	J. M. E. Riedel.



This illustration shows the under side of the Bruner Lights at a building in St. Louis, as seen from a point 25 to 30 feet back in basement, at a height of six feet from floor. Note, that the whole of every glass is visible and that the glass effectively radiates light this far and still farther back of this point.



This illustration shows the under side of a panel of another system of lights immediately adjoining the panel on opposite page, and from exactly the same view-point. Note, that the lights of this system are invisible and therefore they cannot radiate light to the rear of basement. This is one reason why Bruner Lights of plain glass are as effective as some other systems using reflecting prisms.

This well-known firm wrote us as follows:

CINCINNATI, OHIO, October 30, 1908.

GENTLEMEN:—

Replying to your inquiry as to the service we have had from the Bruner System of Sidewalk Lights, we beg to say that we have used the same in the sidewalk in front of our building on Fifth Street for the past twelve years and it has given us excellent results.

We are pleased with it not only in regard to its durability, but because it gives very excellent light in the basement under the sidewalk, which we use for a shop.

Respectfully yours,
THE PECK WILLIAMSON H. & V. CO.,
(Signed) A. W. WILLIAMSON, President.

A. W. W.

JACKSONVILLE, ILL., February 1, 1911.

P. M. Bruner Granitoid Co.,
530 Frisco Building,
St. Louis, Mo.

GENTLEMEN:—

Replying to your favor of the 27th ult., I will say that repair glass for sidewalk lights came in due time.

It is now about 8 years since you placed the sidewalk lights for me and they are still in good condition and have given entire satisfaction. Three or four of the glasses have been broken, but this has been from some sharp blow which glass is not expected to resist.

Yours truly,
THOMAS WORTHINGTON.

DENVER, COLO., March 21, 1907.

P. M. Bruner Granitoid Co.,

GENTLEMEN:—

In answer to yours of the 14th inst., will say that we are entirely satisfied with the lights which your system gives, and we think we have the best lighted basement in the city.

Yours truly,
THE MAY COMPANY.

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